

IN THE CLAIMS:

1.-9. (cancelled)

10. (currently amended) A dishwasher comprising:

a wash chamber;

a water supply line in flow communication with said wash chamber, said water supply line having a first diameter;

a valve configured to deliver water from said water supply line into said wash chamber;

a turbine ratemeter in flow communication with said valve, said turbine ratemeter configured to meter ~~a quantity of~~ water flow through said valve and generate a signal comprising a plurality of square wave pulses representing ~~[[the]]~~ a quantity of water flow through said valve, each pulse of said plurality of square wave pulses representing a ~~predetermined unit~~ quantity of water;

a restrictor tube in flow communication with said turbine ratemeter, said restrictor tube having a second diameter smaller than said first diameter; and

a controller in signal communication with said turbine ratemeter, said controller configured to:

open said valve;

receive the generated signal from said turbine ratemeter; ~~[[and]]~~

close said valve when a predetermined number of pulses have been received from said turbine ratemeter such that a predetermined quantity of water is supplied through said valve; and

vary the quantity of water for a next use of the dishwasher based on at least one prior water usage.

11. (previously presented) A dishwasher in accordance with Claim 10 further comprising a pump motor configured to pump liquid into said wash chamber, said controller coupled to said motor, said controller configured to detect a cavitation of said pump and use said ratemeter to deliver a predetermined amount of water upon the detection.

12. (currently amended) A dishwasher in accordance with Claim 11 wherein said controller is configured to detect a cavitation by sensing a current to said motor.

13. (currently amended) A dishwasher in accordance with Claim 12 wherein said is controller configured to detect a cavitation by sensing a phase of an alternating current to said motor.

14. (currently amended) A dishwasher comprising:

a wash chamber;

a water supply line in flow communication with said wash chamber, said water supply line having a first diameter;

a valve and a turbine ratemeter positioned to deliver a metered amount of water into said wash chamber, said turbine ratemeter generating square wave pulses each representing a predetermined quantity of water;

a restrictor tube in flow communication with said turbine ratemeter, said restrictor tube having a second diameter smaller than said first diameter; and

a controller coupled to said valve and said turbine ratemeter, said controller configured to:

deliver a first amount of water to the dishwasher for a first dishwashing cycle;

monitor at least one operation of the dishwasher during the first dishwashing cycle to detect an underfill condition;

add additional water to the dishwasher upon detecting at least one underfill condition during the first dishwashing cycle;

measure a first total amount of additional water by counting a first plurality of square wave pulses generated by said turbine ratemeter during addition of the additional water for the first dishwashing cycle;

retain the first total amount of additional water added during the first dishwashing cycle;

~~deliver the first amount of water to the dishwasher for a second dishwashing cycle subsequent the first dishwashing cycle;~~

~~monitor at least one operation of the dishwasher during the second dishwashing cycle to detect an underfill condition;~~

~~add additional water to the dishwasher upon detecting at least one underfill condition during the second dishwasher cycle;~~

~~measure a second total amount of additional water by counting a second plurality of square wave pulses generated by said turbine ratemeter during addition of the additional water for the second dishwasher cycle;~~

~~retain the second total amount of additional water added during the second dishwashing cycle; and~~

determine a second amount of water to deliver to the dishwasher for a ~~third dishwashing cycle subsequent the second cycle~~ the at least one underfill condition using the retained first total amount of additional water and the retained second total amount of additional water based on the first amount of water and the first total amount of additional water.

15. (original) A dishwasher in accordance with Claim 14 further comprising a pump motor coupled to said controller, said controller further configured to monitor said pump to detect a pump cavitation.

16. (currently amended) A dishwasher in accordance with Claim 15, wherein said controller is further configured to deliver a predetermined amount of water to said wash chamber upon a detecting the pump cavitation.

17. (currently amended) A dishwasher in accordance with Claim 15, wherein said controller is further configured to provide an indication upon detecting the pump cavitation.

18. (currently amended) A dishwasher in accordance with Claim 17, wherein said controller is further configured to provide a visual indication upon detecting the pump cavitation.

19. (currently amended) A dishwasher in accordance with Claim 17, wherein said controller is further configured to provide an audible indication upon detecting the pump cavitation.

20. (currently amended) A dishwasher in accordance with Claim 14, wherein said controller is further configured to:

after a power loss, deliver the first amount of water to the dishwasher for ~~[[a]]~~  
the first dishwashing cycle subsequent the power loss;

monitor at least one operation of the dishwasher during the first dishwashing cycle subsequent the power loss to detect ~~[[an]]~~ the underfill condition;

add additional water to the dishwasher upon detecting at least one underfill condition during the first dishwashing cycle subsequent the power loss;

retain ~~[[a]]~~ the first total amount of additional water added during the first dishwashing cycle subsequent the power loss;

~~deliver the first amount of water to the dishwasher for a second dishwashing cycle subsequent the first cycle subsequent the power loss;~~

~~monitor at least one operation of the dishwasher during the second dishwashing cycle subsequent the power loss to detect an underfill condition;~~

~~add additional water to the dishwasher upon detecting at least one underfill condition during the second dishwashing cycle subsequent the power loss;~~

~~retain a second total amount of additional water added during the second dishwashing cycle subsequent the power loss; and~~

determine a vary the second amount of water to deliver to the dishwasher for a ~~third dishwashing~~ cycle subsequent the ~~second~~ first dishwashing cycle subsequent the power loss using based on the retained first total amount of additional water added and the ~~retained second total amount of additional water added~~ first amount of water.